

REMARKS

Claims 1-21, 24, 26-30 stand rejected as allegedly being obvious under 35 USC § 103 in view of US Patent No. 6,128,747 (hereafter Thoulon). Claims 22-23, 25, 31-32 stand rejected as allegedly being unpatentable over Stevens in view of Thoulon further in view of US Patent No. 6,055,643 (hereafter Chaiken).

Applicant respectfully submits that Thoulon does not render claims 1-26 obvious alone or in combination with Chaiken. Thoulon discusses essentially three modes of waking up a memory controller. The Office Action argues that these three modes render obvious the pre-amendment claims. Applicant respectfully disagrees with these rejections and additionally submits that the current claims would be made obvious by Thoulon.

The three ways in which the memory controller may be awakened as described by Thoulon are (1) monitoring a sleep signal to determine when the memory should be woken up (Col. 2, ll. 37-41; Col. 4, ll. 40-50); (2) monitoring the sleep signal as in (1) in conjunction with delaying propagation of the de-assertion of the sleep signal for a predetermined period of time to allow the memory to be awakened (Col. 4, ll. 51-58; Col. 5, ll. 43-46); and (3) monitoring bus transactions to detect transactions such as DMA transactions from I/O which may not need to wake up the processor (Col. 2, ll. 42-44; Col. 4, ll. 59-62).

Applicant respectfully submits that these techniques are different than from that which applicant is claiming in claim 1. For example, in claim 1, the control logic is to generate a plurality of initialization commands to remove the memory subsystem from

said memory low power state in response to a low power state exist message from a first component, and then is to signal back to that first component by generating an end of low power state exit message to the component. This is different from merely sensing and/or delaying the de-assertion of a sleep signal (Thoulon techniques 1 and 2) because there is both a sensing and a response and in some embodiments additional signaling is required to cause the processor to awaken. Moreover, what is claimed in claim 1 is different from merely sensing I/O transactions that would require the memory (Thoulon technique 3) because of the same reason and/or because the memory accesses have a different purpose than to wakeup the memory.

Thoulon never teaches or suggests using a handshake technique whereby one message is received and another generated to respond to the generator of the first message. Such technique may be useful for a memory controller with a complex initialization. It appears from the limited disclosure of Thoulon that a relatively simple process was needed to wake up the memory. Thus, it would not have been apparent from Thoulon to use anything more than the described pre-determined delay.

With respect to claim 18, applicant respectfully submits that this claim too is now clearly distinguished from Thoulon's techniques.

With respect to claim 26, applicant submits that this claim is patentable over Thoulon because a technique not disclosed or suggested by Thoulon is presented. Specifically, the memory controller claimed in claim 26 is to receive a first message and in response perform a set of initialization commands. A responsive message is also sent by the memory controller to an I/O controller, and then additionally a second message is sent to the processor by the I/O controller. Thoulon in no way suggests such a complex

handshake arrangement for awakening the memory controller.

Conclusion

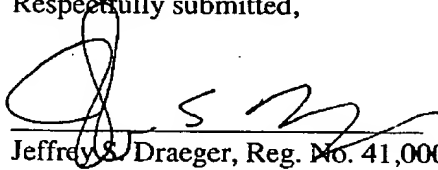
Applicant has given at least one reason justifying patentability of all claims, and has not attempted to point out the numerous ways to justify patentability of all the different claims. Applicant reserves the right to argue additional reasons as well as to explain the patentability of the dependent claims.

Applicants submit that all claims now pending are in condition for allowance. Such action is earnestly solicited at the earliest possible date. If there is a deficiency in fees, please charge our Deposit Acct. No. 02-2666.

Applicant hereby requests a one month extension of time be charged to our deposit account No. 02-2666.

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Respectfully submitted,


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